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BOX PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Attorney Docket No: FPMI114707

TRANSMITTAL LETTER

Seattle, Washington 98101

March 8, 2000

TO THE ASSISTANT COMMISSIONER FOR PATENTS:

Transmitted herewith for filing under 37 C.F.R. § 1.53(b) by Express Mail is the complete patent application of: Norman Paul Formo, entitled DOUBLE BAGGING SYSTEM.

X 1. An application consisting of 10 pages of specification and claims and 4 sheets of formal drawings is attached.

X 2. A newly executed Declaration and Power of Attorney is attached.

X 3. An Assignment of the invention to Formost Packaging Machines, Inc. is attached. A Cover Sheet prepared in accordance with 37 C.F.R. § 3.31 is attached to the Assignment. Please record this Assignment in accordance with 37 C.F.R. § 3.11.

X 4. A filing date in accordance with 37 C.F.R. § 1.10 is requested. The Express Mail Certificate appears below.

X 5. A Small Entity Statement - Independent Inventor is attached.

X 6. A Small Entity Statement - Small Business Concern is attached.

COMPUTATION OF FEE

	Number Filed		Number Extra		Rate		Basic Fee 345.00
Total Claims	24 - 20	=	4	x	9.00	=	36.00
Independent Claims	5 - 3	=	2	x	39.00	=	78.00
Multiple Dependent Claims	-0-		---		130.00		
	TOTAL						459.00

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
206.682.8100

X 7. Our check No. 114343 in the amount of $459.00 to cover the total fee as computed above and the fee for recordation of assignment is enclosed.

X 8. Our check No. 114342 in the amount of $40.00 to cover the total fee for recordation of assignment is enclosed.

X 9. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16, 1.17 and 1.18 which may be required during the entire pendency of the application, or credit any overpayment, to Deposit Account No. 03-1740. This authorization also hereby includes a request for any extensions of time of the appropriate length required upon the filing of any reply during the entire prosecution of this application. A copy of this sheet is enclosed.

Please address all further correspondence to:

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Respectfully submitted,

CHRISTENSEN O'CONNOR
JOHNSON & KINDNESS^{PLLC}

Ward Brown
Registration No. 28,400
Direct Dial No. 206.695.1716

EXPRESS MAIL CERTIFICATE

"Express Mail" mailing label number EL491232060US
Date of Deposit March 8, 2000

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.

Jeannine Washington
(Typed or printed name of person mailing paper or fee)

Jeannine Washington
(Signature of person mailing paper or fee)

WB:jk

Applicant: Norman Paul Formo Attorney Docket No. FPMI114707

Serial No.:

Filed: on or about March 7, 2000

Title: DOUBLE BAGGING SYSTEM

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 C.F.R. §§ 1.9(F) AND 1.27(B)) - INDEPENDENT INVENTOR

As a below-named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 C.F.R. § 1.9(c) for purposes of paying reduced fees under 35 U.S.C. §§ 41(a) and (b), to the Patent and Trademark Office with regard to the invention entitled DOUBLE BAGGING SYSTEM described in

(X) the specification filed herewith.

( ) Application No. _____, filed _____.

( ) Patent No. _____, issued _____.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 C.F.R. § 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 C.F.R. § 1.9(d) or a nonprofit organization under 37 C.F.R. § 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

(X) persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 C.F.R. § 1.27)

Full Name: Formost Packaging Machines, Inc.

Address P.O. Box 359, Woodinville, WA 98072

(X) Small Business Concern

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1420 Fifth Avenue
Suite 2800
Seattle, Washington 98101
(206) 682-8100

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. § 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Norman Paul Formo

March 8, 2000
Date

WB:jk

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Applicant: Norman Paul Formo Attorney Docket No. FPMI114707

Serial No.:

Filed: on or about March 7, 2000

Title: DOUBLE BAGGING SYSTEM

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 C.F.R. §§ 1.9(F) AND 1.27(C)) - SMALL BUSINESS CONCERN

I hereby declare that I am

( ) the owner of the small business concern identified below:

(X) an official of the small business concern empowered to act on behalf of the concern identified below:

Name of Concern Formost Packaging Machines, Inc.

Address of Concern P.O. Box 359, Woodinville, WA 98072

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 C.F.R. §§ 121.3-18, and reproduced in 37 C.F.R. § 1.9(d), for purposes of paying reduced fees under 35 U.S.C. §§ 41(a) and (b) in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled DOUBLE BAGGING SYSTEM by inventor Norman Paul Formo, described in

(X) the specification filed herewith.

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below* and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 C.F.R. § 1.9(c) or by any concern which would not qualify as a small business concern under 37 C.F.R. § 1.9(d) or a nonprofit organization

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under 37 C.F.R. § 1.9(e). *NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities (37 C.F.R. § 1.27).

Full Name: NONE

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. § 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that such willful, false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Name: Norman Paul Formo

Title: President

Address: P.O. Box 359, Woodinville, WA 98072

Signature:

Date: March 8, 2000

WB:jk

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DOUBLE BAGGING SYSTEM

Field of the Invention

The present invention relates to a system for packaging articles, particularly loaves of bread and, more particularly, "high end" or premium breads which heretofore have been first wrapped by an automatic wrapping machine and thereafter bagged by an automatic bagging machine.

Background of the Invention

Automatic wrapping machines for bread have been known for a long time. An example is a wrapping machine of the general type described in Jensen et al. U.S. Patent No. 2,691,856, assigned to American Machine & Foundry Co. ("AMF") and the patents referred to therein and other patents of AMF. In such a machine, an individual loaf to be wrapped is moved transversely of its length against a draped or depending leading or free end of a continuous wrapper web as the loaf travels from an infeed conveyor. The web is fed from a roll. In early machines, the wrapping material web consisted of waxed paper, whereas later machines were converted to use cellophane and, still later, polypropylene. The wrapping sequence is essentially the same regardless of the wrap material used. Typically, the wrapper web material is drawn over the top of the loaf and down along the rear side under a desired amount of tension. The loaf and wrapper web are manipulated to form a lap joint on the underside. The web then is cut and the loaf delivered to a heated platen for heat sealing the lap joint. The ends of the wrap are tucked or folded and sealed to complete the wrap.

As compared to the older wrapping equipment, more modern automatic bagging machines use stacks of preformed bags stored on wickets. An individual

bag is opened to receive a loaf fed lengthwise into the bag, and the bag can be closed by a twist tie or clip.

The more modern bagging machines are of less complicated construction and more reliable than the older wrapping machines. Also, there is less likelihood that the bag will come open during shipping and handling, i.e., before taken home by the customer. The bagging machines also are adaptable to different articles. Consequently, automatic bagging machines continue to be sold and improved, whereas new wrapping machines have not been sold for quite some time.

For "high end" or "premium" breads, it has become common to use the older wrapping machines to form an inner wrap for a tighter, neater and more consistently shaped package which then is bagged by an automatic bagging machine. Still, the older wrapping machines have the undesirable characteristics of being complicated and less reliable, and parts have become scarce and expensive. Further, the inner wrap may loosen so that a customer opening the outer bag may suspect tampering or an inadequate inner wrap.

Summary of the Invention

The preferred embodiment of the present invention provides a system for a double package for high end or premium bread, including pre-sliced loaves, having a tight, neat inner package and an outer bag. The inner package preferably is formed by a bagging operation using modern bagging equipment, as compared to the known inner wrapped package. In the present invention, this can be achieved by initially bagging the bread in a preformed bag which then has its open end gathered and heat sealed. Thereafter the sealed bag is heat shrunk, but only to the degree necessary to create a reasonably tight, neat package. Preferably the closed end of the heat shrinkable bag is gusseted for an attractive appearance. Thereafter, the bagged product is fed to an automatic bagging machine to apply a looser outer bag and, from there, to an automatic bag closer such as a twist tie or clip applying machine.

In another aspect of the present invention, the closed end of the inner bag has perforations for easy opening by the customer and also to provide a tamper evident package.

Brief Description of the Drawings

The foregoing aspects and many of the attendant advantages of this invention will become more readily appreciated as the same become better understood by reference to the following detailed description, when taken in conjunction with the accompanying drawings, wherein:

FIGURE 1 is a diagrammatic top plan of apparatus used in a preferred embodiment of a double bagging system in accordance with the present invention;

FIGURES 2A-2F illustrate sequential steps in the double bagging of a loaf of bread in accordance with the system of the present invention;

FIGURE 3 is a diagrammatic perspective illustrating formation of an inner bag that can be used in the system of the present invention;

FIGURES 4A-4L illustrate closed ends of bags formed in accordance with FIGURE 3 having different arrangements of tamper evident perforations or scores in the closed ends thereof; and

FIGURE 5 is a top rear perspective of a product after bagging in an inner bag of the type shown in FIGURE 4B.

Detailed Description of the Preferred Embodiment

The present invention can be practiced using largely conventional components to achieve a novel and unobvious result. In general, the preferred embodiment of the invention pertains to automatic packaging of loaves of bread, particularly "high end" or "premium" breads. An example of a layout of the components is shown in FIGURE 1.

First, loaves of bread to be packaged are fed to a slicing machine 12. An example of such a slicing machine is the model 9075 slicer available from United Bakery Equipment (UBE) of Compton, California. At this stage, the sliced bread loaf L can be diagrammatically illustrated as shown in FIGURE 2A, but it should be noted that individual loaves will vary somewhat in length, height, and profile.

The sliced loaf is transported by an exit conveyor 14 to the transfer mechanism 16 of an automatic bagging machine 18, such as a model JV60 or GT4 horizontal bagger available from Formost Packaging Machines, Inc., of Woodinville, Washington. Such a horizontal bagger has a stack of preformed, wicketed bags 20 which are filled consecutively in conjunction with the automatic bag opening and product inserting mechanism.

At this stage, the product can be represented as illustrated in FIGURE 2B. The loaf L is contained within a preformed bag 20 having a closed end 22 and an open end 24. Returning to FIGURE 1, the bagged product is fed closed end first to an automatic product pusher 26 (an option of the Formost JV60 and GT4) which feeds the bagged product to the conveyor 28 of a bag sealing head 30.

In a representative embodiment, the bag sealing head includes mechanism for gathering the open end of the bag, and to seal and trim the newly closed end of the bag. A representative sealing head is the model HCBS available from All Packaging

Machinery (APM) of Ronkonkona, New York. At this stage, the bagged product can be represented as shown in FIGURE 2C, in which the loaf L is somewhat loosely enclosed within the bag 20 having the preformed end 22 and the newly closed, sealed and trimmed end 24.

Next, the loosely bagged product is conveyed through a shrink tunnel 32, such as the model 7141 available from Weldotron Company of Piscotaway, New Jersey, or the model T-62 available from Shaklin Company of Ayer, Massachusetts. As described in more detail below, heat shrinks the bag to a fairly tight condition as represented in FIGURE 2D. The relative sizes of the bread loaf L, bag 20, and the characteristics of the inner bag material are selected to achieve the desired fit. At this stage the preformed closed end 22 of the bag will retain a neater appearance than the gathered and sealed end of the bag 24.

From the shrink tunnel 32, the loaf is fed to a 180° turn conveyor 34 onto another infeed conveyor 36 which can, for example, be a driven free roller conveyor. Turning the bagged product results in the newly-formed end being presented first to a second automatic bagging machine 38 such as a Model JV60 or GT4 Formost horizontal bagger. Such horizontal bagger has a stack of preformed bags 40 which are filled consecutively by the incoming inner bagged loaves, i.e., bagger 38 runs on demand. The heat shrunk inner bag and enclosed loaf are inserted through the open end of the outer bag, by movement of the loaf or the outer bag, depending on the particular bagger used. At the exit end of the bagger 38, the now double-bagged product can be represented as shown in FIGURE 2E, with the outer bag 40 being open at its end 42. This is the end that will normally be opened first by the consumer, which would reveal the neat appearing preformed end 22 of the inner bag 20.

Finally, an exit conveyor 44 conveys the double-bagged product to automatic closing equipment 46 for the outer bag, such as a twist tier (such as a model 2000 or 2100 available from Burford Company of Maysville, Oklahoma), or clip applying machine (such as the model 872B available from Kwik Lok Company of Yakima, Washington), or other conventional bag closing apparatus, resulting in the double bagged condition of FIGURE 2F.

As emphasized above, a neat appearing inner bag is considered to be important. FIGURE 3 illustrates diagrammatically formation of the inner bags. Bag web material 52 from a roll is formed with a single accordion fold or gusset 54. More specifically, the continuous bag web is formed with a with a top sheet 56 and a bottom sheet 58 joined by the V-fold 54 along one side of the web. Individual bag

blanks 20 are cut from the leading end of the web and have their sides sealed and trimmed conventionally as represented at the lower left of FIGURE 3. The free edge of the bottom sheet 58 typically would project beyond the free edge of the top sheet 56, with holes punched in the projecting portion or margin of the bottom sheet for wicketing. Thereafter the individual bags are stacked and wicketed at the first bagging machine 18. The gusset provides for the neater appearance at the closed end 22 of the bag.

In addition, the closed end 22 of each bag 20 can be formed with a horizontal row of perforations 60 which will be in the end of the inner bag presented to the consumer when the outer bag is opened. Such perforations can be formed in a continuous row along the gusseted portion of the bag web material as illustrated in FIGURE 3. Alternatively, a shorter row of perforations can be provided, spaced uniformly along the length of the bag web so as to be approximately centered in the gusseted end of each finished bag.

More specifically, the bag end 22 can appear as shown in FIGURE 4A and FIGURE 5 with a continuous row of perforations 60 extending horizontally from side to side, or a shorter row of perforations 62, as seen in FIGURE 4B. Rather than perforations, the bag web material can have a continuous bag-weakening score 64, as shown in FIGURE 4E, or a shorter horizontal score 66 as shown in FIGURE 4F. Other arrangements of equivalent bag opening means can be provided, such as the "H" arrangement of perforations 68 shown in FIGURE 4I or the "H" configuration of bag weakening scores 70 shown in FIGURE 4J. While it is preferred that the primary bag-weakening and opening means extend horizontally, it also could extend vertically as shown in FIGURES 4C (continuous perforations 72 along the closed end 22 of the bag 20), 4D (shorter column of perforations 74), 4G (continuous vertical score 76), 4H (shorter vertical score 78), 4K (sideways "H" configuration of perforations 80), and 4L (sideways "H" scoring 82). Horizontal perforations or scoring is preferred because it extends in the machine direction (bag web direction) during formation of the inner bag. In any event, the bag opening means allows the inner bag to be opened conveniently by the consumer without having to remove the inner bag from the outer bag, for convenient dispensing of the product. The bag opening means also has the advantage of providing a tamper evident package.

Conventional materials deliberately designed for heat shrinking may stretch unduly, or be too weak for achieving the tight, neat package desired, or shrink too tightly and deform some or all of the loaves. In the currently preferred embodiment, the preferred material for the inner bag is a low density polyethylene (PE) with or

without ethyl vinyl acetate (EVA) additive, but another possibility is a polyolefin bag. The material and characteristics of the shrink tunnel must be selected with the intended use in mind. For example, typically the sliced bread would be delivered at a temperature between about 95° and 115°F and it is preferred that additional heat supplied during the inner bagging and bag shrinking operation not be excessive. In the currently preferred embodiment, the PE inner bag is shrunk in a shrink tunnel approximately 93 inches long at a temperature of about 400°F. for a period of about 3 to 4 seconds, but even these characteristics are dependent on the looseness of the fit of the loaf in the unshrunk bags 20. For example, in the currently preferred embodiment the circumference of the bag exceeds the circumference of the loaf by about 1 inch to 2 inches prior to shrinkage, which has been found to accommodate expected variations in the incoming bread loaf size and still achieve a reasonably tight, neat fit for the inner bag. After shrinkage of the inner bag it is preferred that the circumference of the bag exceed the circumference of the loaf by no more than about one-quarter inch to one-half inch. A looser fit initially will mandate a greater degree of shrinkage to achieve an equivalent inner package.

While the preferred embodiment of the invention has been illustrated and described, it will be appreciated that various changes can be made therein without departing from the spirit and scope of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method for packaging a loaf of bread, which method comprises:

feeding the loaf through an open first end of an inner preformed bag having a closed second end opposite the first end;

sealing the first end of the inner bag to close such first end and heat shrinking the inner bag to closely enclose the loaf; and

inserting the heat shrunk inner bag and enclosed loaf through an open end of a preformed outer bag and closing such open end of the outer bag.

2. The method defined in Claim 1, including inserting the heat shrunk inner bag and enclosed loaf endwise, second end last, through the open end of the preformed outer bag, such that the second end of the inner bag is adjacent to the open end of the outer bag.

3. The method defined in Claim 2, including providing bag-weakening opening means in the second end of the inner bag such that the opening means is presented to a user upon reopening of the open end of the outer bag.

4. The method defined in Claim 3, including providing a row of bag-weakening perforations in the second end of the inner bag for manual opening of the inner bag by a consumer.

5. The method defined in Claim 3, including providing a horizontal row of bag-weakening perforations in the second end of the inner bag for manual opening of the inner bag by a consumer.

6. The method defined in Claim 3, including providing a bag-weakening score in the second end of the inner bag for manual opening of the inner bag by a consumer.

7. The method defined in Claim 3, including providing a horizontal bag-weakening score in the second end of the inner bag for manual opening of the inner bag by a consumer.

8. The method defined in Claim 1, including performing the method automatically, including feeding the loaf through an open first end of an inner preformed bag having a closed second end opposite the first end by a first automatic

bagging machine, and inserting the heat shrunk inner bag and enclosed loaf through an open end of a preformed outer bag by a second automatic bagging machine, such inserting by the second bagging machine being performed by moving the heat shrunk inner bag and enclosed loaf endwise, second end last, through the open end of the preformed outer bag.

9. The method defined in Claim 8, including automatically turning the heat shrunk inner bag and enclosed loaf between the first automatic bagging machine and the second automatic bagging machine.

10. A packaged product comprising a loaf of bread enclosed in an inner heat shrunk bag having a preformed closed end and a gathered and sealed end opposite the preformed closed end, such heat shrunk inner bag and enclosed loaf being contained within a separate outer bag having a closed first end and an openable second end.

11. The packaged product defined in Claim 10, in which the preformed closed end of the inner bag is gusseted.

12. The packaged product defined in Claim 10, in which the preformed closed end of the heat shrunk inner bag is adjacent to the openable end of the outer bag.

13. The packaged product defined in Claim 12, in which the preformed closed end of the heat shrunk inner bag has bag-weakening means for manual opening of the inner bag.

14. The packaged product defined in Claim 13, in which the preformed closed end of the inner bag has a row of perforations for opening of the inner bag.

15. The packaged product defined in Claim 13, in which the closed end of the inner bag has a bag-weakening score for manual opening of the inner bag.

16. The method of supplying bags which comprises forming a length of heat shrinkable bag web material such that the web material has a top sheet, a bottom sheet, and a V-fold connecting the top sheet and bottom sheet, cutting individual bag blanks from the unrolled web material, sealing side portions of the bag blanks to form bags having closed ends gusseted in the area of the V-fold and opposite sides

extending therefrom to an open end of the bag, and weakening a section of the gusseted end of the bag for assisting manual opening of the bag at the gusseted end.

17. The method defined in Claim 16, including forming a row of perforations in the gusseted end of the bag to weaken it for manual opening thereof.

18. The method defined in Claim 17, in which the perforations are formed in a row extending lengthwise of the V-fold.

19. The method defined in Claim 17, including scoring the gusseted end of the bag to weaken it for manual opening thereof.

20. The method defined in Claim 19, in which the scoring extends lengthwise of the V-fold.

21 A bag comprising a blank of heat shrinkable bag web material having a top sheet, a bottom sheet and a V-fold joining the top sheet and the bottom sheet and forming a closed end, the blank having opposite sealed sides extending from the closed end to an open end of the bag blank, and bag-weakening means in the closed end of the bag blank for manual opening thereof.

22 The bag defined in Claim 21, in which the bag-weakening means includes a row of perforations.

23 The bag defined in Claim 21, in which the bag-weakening means includes a scoring of the web material.

24. An automatic packaging system for a loaf of bread comprising:

a first automatic bagger for receiving the loaf and for inserting the loaf endwise through an open first end of an inner preformed bag having a closed second end opposite the first end;

an automatic gatherer and sealer, automatically receiving the inner bagged loaf from the first bagger, and having means for gathering and sealing the first end of the inner bag;

a heat shrink component, automatically receiving the inner bagged loaf from the gatherer and sealer, for heat shrinking the inner bag to closely enclose the loaf; and

a second automatic bagger automatically receiving the heat shrunk inner bag and enclosed loaf for insertion thereof through an open end of a preformed outer bag.

DOUBLE-BAGGING SYSTEM

Abstract of the Disclosure

High end or premium bread, including presliced loaves, are inserted into a preformed inner bag by an automatic bagging machine. The open end of the inner bag is gathered and sealed, and thereafter the inner bag is heat shrunk to closely enclose a loaf. Then the heat shrunk inner bag and enclosed loaf is bagged by a second automatic bagger, and the outer bag is then closed by an automatic bag closer. The inner bag preferably has a gusseted closed end which is adjacent to the openable end of the outer bag for presentation to a consumer. Such closed end of the inner bag can have bag weakening perforations or scores for convenient opening by the consumer.

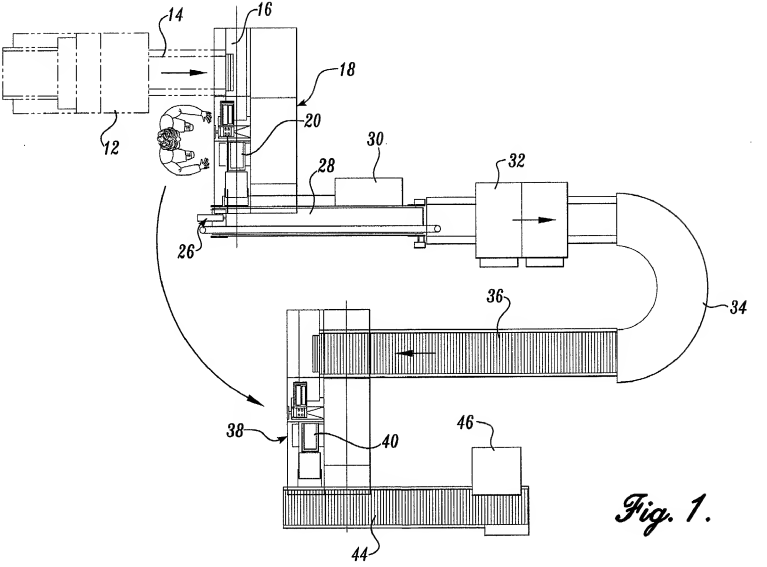


Fig. 1.

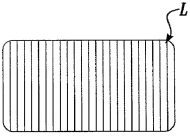


Fig. 2A.

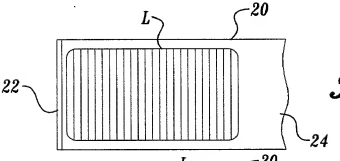


Fig. 2B.

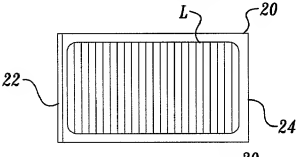


Fig. 2C.

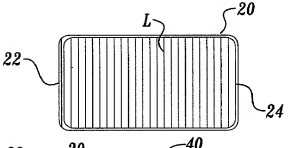


Fig. 2D.

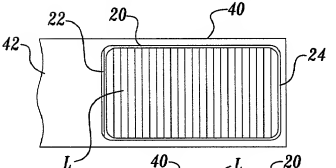


Fig. 2E.

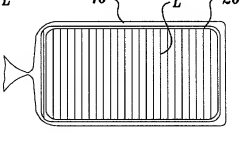


Fig. 2F.

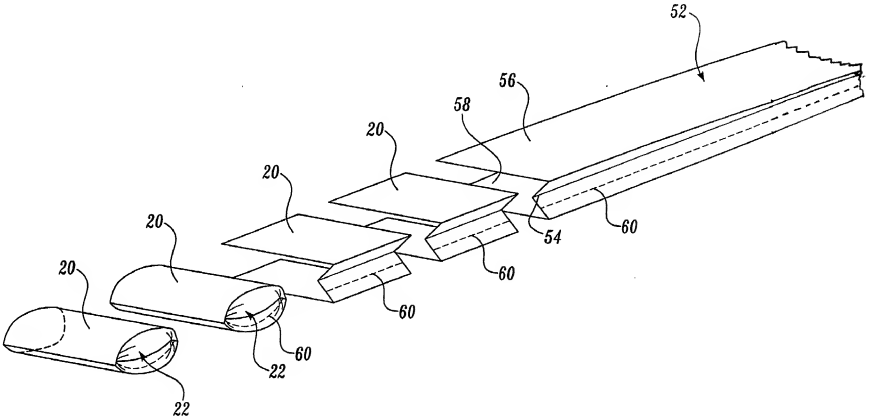
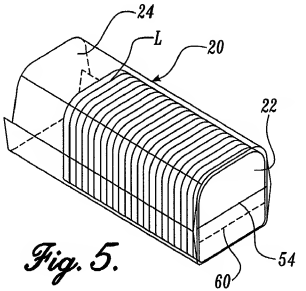


Fig. 3.



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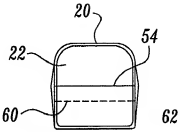


Fig. 4A.

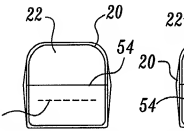


Fig. 4B.

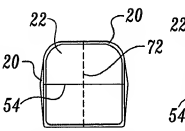
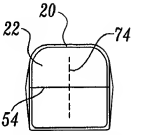


Fig. 4C.



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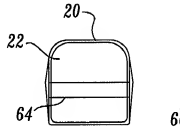

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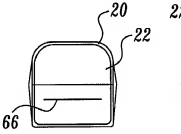

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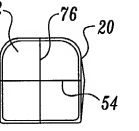

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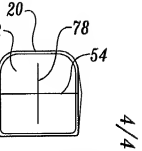

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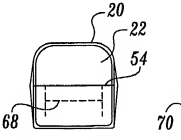

Fig. 4I.

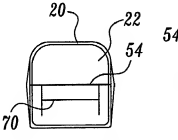

Fig. 4J.

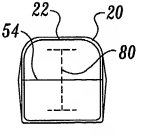

Fig. 4K.

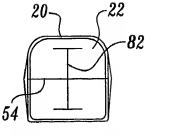

Fig. 4L.

Attorney Docket No: FPMI114707

COMBINED DECLARATION AND POWER OF ATTORNEY IN PATENT APPLICATION

As a below-named inventor, I hereby declare that:
my residence, post office address and citizenship are as stated below next to my name;
I believe that I am the original, first and sole inventor of the subject matter that is claimed and for which patent is sought on the invention entitled: DOUBLE BAGGING SYSTEM, the specification of which is attached hereto.
I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.
I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a).
I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(c) of any foreign application(s) for patent listed below and have also identified below, any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed: NONE
I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(d) of any inventor's certificate listed below. I declare that, upon investigation, I am satisfied that to the best of my knowledge, when filing the application for the inventor's certificate I had the option to file an application for either a patent or an inventor's certificate as to the subject matter of the identified claim or claims forming the basis for the claim of priority: NONE
I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below: NONE
I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s) or PCT international application(s) designating the United States listed below, and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, Section 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, Section 1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application: NONE
I hereby appoint the following attorneys and/or agents to prosecute this application and to transact all business in the United States Patent and Trademark Office connected therewith: Bruce E. O'Connor, Reg. No. 24,849; Lee E. Johnson, Reg. No. 22,946; Gary S. Kindness, Reg. No. 22,178; James W. Anable, Reg. No. 26,827; James R. Uhlir, Reg. No. 25,096; Jerald E. Nagae, Reg. No. 29,418; Dennis K. Shelton, Reg. No. 26,997; Jeffrey M. Sakoi, Reg. No. 32,059; Ward Brown, Reg. No. 28,400; Robert J. Carlson, Reg. No. 35,472; Marcia S. Kelbon, Reg. No. 34,358; Rodney C. Tullett, Reg. No. 34,034; Daiva K. Tautvydas, Reg. No. 36,077; Mary L. Uhli, Reg. No. 40,574; and the firm of Christensen O'Connor Johnson & Kindness PLLC. Address all telephone calls to Ward Brown at telephone No. 206.695.1716.
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I hereby further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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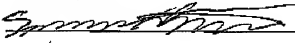	March 8, 2000

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